

**ABSTRACT OF THE DISCLOSURE**

In producing data processor emulation information, program counter values used by a data processor are provided in a program counter trace stream, and a synchronization marker is inserted into the program counter trace stream. Trace information indicative of a data processing operation performed by the data processor is also provided, and a program counter value that corresponds to the data processing operation is identified. In this identification, the corresponding program counter value is expressed as an offset which indicates a number of program counter values in the program counter trace stream by which the corresponding program counter value is offset from the synchronization marker in the program counter trace stream.